

REMARKS

The Office Action dated February 16, 2005, has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto.

Claims 3, 4, 8 and 11 are amended to correct informalities. Claim 2 is canceled without prejudice. No new matter is added. Thus, claims 3, 4, 8, 11, 14-23, 25, 27, 29-39, 41, 43 and 45 are presently pending in the subject application, and respectfully are submitted for consideration. Applicants respectfully submit that the amendments to claims 3, 4, 8 and 11 are not made to overcome a statutory rejection and that these claims are entitled to their full range of equivalents.

As a preliminary matter, the Office Action indicated that claims 3, 4, 8, 11, 25, and 41 are allowed. The Office Action also indicated that claims 15, 20, 31 and 36 contain allowable subject matter, and would be allowable if rewritten in independent form to include all the limitations of the base claims and any intervening claims. Applicants acknowledge with appreciation the finding of allowable subject matter.

Claim 2 was rejected under 35 U.S.C. § 102(b) as allegedly being anticipated U.S. Patent No. 5,745,480 (Behtash et al.). Applicants cancel claim 2 in the foregoing amendments. Thus, this rejection is rendered moot, and applicants respectfully request the anticipation rejection be withdrawn.

Claims 14, 16-19, 21-23, 27, 29, 30, 32-34, 35, 37-39, 43 and 45 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Behtash in view of U.S.

Patent No. 5,396,516 (Padovani et al.). The Office Action took the position that Behtash taught all the elements of the claims except determining and transmitting the power control command at a frequency based on the change in the amount of traffic. The Office Action then alleged that Padovani provided those elements of the claims missing from Behtash. Applicants respectfully traverse the obviousness rejection and submit that the cited references, either alone or in combination, fail to disclose or suggest all the features of any of the presently pending claims.

Claim 14, upon which claims 16-18 are dependent, recites a method of operating a base station in a digital radio link. The base station has a radio connection with a personal station. The method includes identifying a change in amount of traffic received from the personal station. The method also includes determining a frequency of transmission of a power control command based on the change in the amount of traffic. The method also includes transmitting the power control command to the personal station in accordance with the frequency of transmission.

Claim 19, upon which claims 21-23 are dependent, recites a method of operating a personal station in a digital radio link. The personal station has a radio connection with a base station. The method includes identifying a change in amount of traffic received from the base station. The method also includes determining a frequency of transmission of a power control command based on the change in the amount of traffic. The method also includes transmitting the power control command to the base station in accordance with the frequency of transmission.

Claim 27 recites a method of operating a personal station to control transmission of a power control command in a digital radio link. The personal station has a radio connection with a base station. The method includes sending a request to the base station to change transmission between the base station and the personal station. The method also includes negotiating with the base station to determine a frequency of transmission of a power control command based upon the request. The method also includes transmitting the power control command to the base station in accordance with the frequency of transmission.

Claim 29 recites a method of operating a personal station to control transmission of a power control command in a digital radio link. The personal station has a radio connection with a base station. The method includes sending a request to the base station to change transmission between the base station and the personal station. The method also includes receiving from the base station the frequency of transmission of a power control command in response to the request. The method also includes transmitting the power control command to the base station in accordance with the frequency of transmission.

Claim 30, upon which claims 32-34 are dependent, recites a base station for having a radio connection with a personal station in a digital radio link. The base station is configured to identify a change in amount of traffic received from the personal station. The base station also is configured to determine a frequency of transmission of a power control command based on the change in the amount of traffic. The base station also is

configured to transmit the power control command to the personal station in accordance with the frequency of transmission.

Claim 35, upon which claims 37-39 are dependent, recites a personal station for having a radio connection with a base station in a digital radio link. The personal station is configured to identify a change in amount of traffic received from the base station. The personal station is configured to determine a frequency of transmission of a power control command based on the change in the amount of traffic. The personal station is configured to transmit the power control command to the base station in accordance with the frequency of transmission.

Claim 43 recites a personal station for having a radio connection with a base station and for controlling transmission of a power control command in a digital radio link. The personal station is configured to send a request to the base station to change transmission between the base station and the personal station. The personal station also is configured to negotiate with the base station to determine a frequency of transmission of the power control command based upon the request. The personal station also is configured to transmit the power control command to the base station in accordance with the frequency of transmission.

Claim 45 recites a personal station for having a radio connection with a base station and for controlling transmission of a power control command in a digital radio link. The personal station is configured to send a request to the base station to change transmission between the base station and the personal station. The personal station also

is configured to receive from the base station a frequency of transmission of a power control command in response to the request. The personal station also is configured to transmit the power control command to the base station in accordance with the frequency of transmission.

As discussed in the specification, examples of the present invention enable improved management of resources for transmitting power control commands. The amount of resources desired for power control commands may be reduced when the power control commands are sent less frequently. Applicants respectfully submit that the cited references of Behtash and Padovani fail to disclose or suggest all the features of any of the presently pending claims. Therefore, the cited references fail to provide the critical and unobvious advantages discussed above.

Behtash relates to a multi-rate wireless communications system. Behtash describes a system controller 176 that receives a service request from a user terminal specifying a desired data rate and a desired bit error rate. The user terminal calculates the transmission power by estimating the propagation loss and adding the loss to the expected received user signal power. The user terminal transmission power level is continually adjusted due to changes in the received signal power because fading and/or mobility and interference power and other user service requests at the base station. The adjustments are based on power control commands sent by the base station to the user terminal. According to the power control commands, the user terminal increases or decreases the transmitted power by adjusting the control voltage of a power amplifier.

Padovani relates to a method and system for the dynamic modification of control parameters in a transmitter power control system. Padovani describes adjusting the power level of a remote transmitter to provide a substantially constant error rate in the received data. Referring to Figure 1 of Padovani, processor 116 executes a rate determination algorithm. Processor 116 determines whether the received data frame contained data that was transmitted at either full rate, half rate, quarter rate or eighth rate and generates a corresponding rate indication. The rate decisions and detected frame errors are used as an indication of the power level at which the mobile station needs to transmit signals to maintain a quality communication link. Upon receiving the rate indications from processor 116, processor 118 executes an algorithm to control a power level setpoint. Based on the result from processor 118, power up/down generator 122 receives the deviation signal and generates either a power up command or a power down command that is transmitted to the mobile station.

Applicants respectfully submit that the cited references of Behtash and Padovani, either alone or in combination, fail to disclose or suggest all the features of any of the presently pending claims. For example, applicants submit that cited references fail to disclose or suggest determining a frequency of transmission of a power control command based on a change in the amount of traffic and transmitting the power control command to the personal or base station in accordance with the frequency of transmission. Applicants submit that Behtash describes increasing or decreasing transmitted power based on power control commands by adjusting the control voltage of the power

amplifier. The power control commands of Behtash are not transmitted in accordance with a frequency of transmission based on a change in amount of traffic. Behtash fails to determine the power control commands according to the amount of traffic in a connection. Instead, Behtash describes calculating the power control commands based on a desired rate. Further, the Office Action states that Behtash “fails to teach or determining and transmitting the power control command at a frequency based on said change in the amount of traffic.” Thus, applicants submit that Behtash fails to disclose or suggest all the features of the pending claims for at least the reasons provided above.

Applicants also submit that Padovani, either alone or in combination with Behtash, fails to disclose or suggest those features of the claims missing from Behtash. Padovani describes controlling a power level setpoint based upon rate decisions and detected frame errors. Padovani fails to transmit the power level command for the power level setpoint to a personal or base station in accordance with a frequency of transmission. The power level instructions for Padovani instead use the error rate to send power up or power down commands. Applicants submit that Padovani fails to transmit the power control commands in accordance with the frequency of transmission or change in amount of traffic. Further, applicants submit that the power up and power down commands of Padovani are based on error rates and deviations, and not on a change in amount of traffic received from a personal or base station. Thus, Padovani fails to indicate changing the period or frequency of transmitting the power control commands, especially in accordance with an amount of traffic received from a base or personal station.

In contrast, claim 14 recites “transmitting said power control command to the personal station in accordance with said frequency of transmission.” Claims 19, 27 and 29 recite “transmitting said power control command to said base station in accordance with said frequency of transmission.” Claim 30 includes the features of claim 14, as well as other features, but is drawn to a base station for having a radio connection. Claims 35, 43 and 45 include the features of claim 19, but are drawn to a personal station having a radio connection. Applicants respectfully submit, based on the reasons provided above, that Behtash and Padovani, either alone or in combination, fail to disclose or suggest at least these features of the presently pending claims.


With regard to the dependent claims, applicants submit that these claims are allowable over Behtash and Padovani for at least the reasons given above, and because the dependent claims recite additional patentable subject matter. Therefore, applicants respectfully submit that Behtash and Padovani fails to disclose or suggest all the features of claims 14, 16-19, 21-23, 27, 29, 30, 32-34, 35, 37-39, 43 and 45. Applicants respectfully request that the obviousness rejection be withdrawn.

Applicants submit that each of claims 3, 4, 8, 11, 14, 23, 25, 27, 29, 39, 41, 43 and 45 recite subject matter that is neither disclosed nor suggested by the cited reference, either alone or in combination. Applicants therefore respectfully request that claims 14, 23, 27, 29-32, 35, 36-39, 43 and 45 be allowed, like claims 3, 4, 8, 11, 25 and 41, and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicants' undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



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